

REMARKS

The Examiner is thanked for the very thorough and professional Office Action, and for acknowledging receipt of the Declaration and Preliminary Amendment. Pursuant to that Office Action, Claims 1-16 have been amended to more definitely set forth the invention and obviate the rejection. Support for the amendment of Claims 1 and 2 can be found in the original Claim 6. Support for the amendment of Claim 6 can be found in the original Claim 6, and support for amendment of Claim 7 can be found in the original Claim 6. The present amendment is deemed not to introduce new matter. Claims 1-16 remain in the application.

Reconsideration is respectfully requested of the rejection of Claims 1-5, 8, 9, 13, 15 and 16 under 35 U.S.C. § 103(a) as being unpatentable over EPA `017.

The present invention relates to a microgel prepared by forming a gel from a hydrophilic compound capable of forming a gel, such as agar or carrageenan, or from a hydrophilic compound and a viscosity increasing compound incapable of forming a gel such as xanthan gum or polyethylene glycol, and then pulverizing the resultant gel into a microgel, and thereafter adding such a microgel to an external composition.

The present invention is based on the discovery that, when a hydrophilic compound capable of forming a gel is formed into a gel which is then pulverized into a microgel having a mean particle size of 0.1-1,000 μm , and then incorporated into a external composition as a viscosity control agent, the resultant composition

unexpectedly provides no sticky sensation during use. It was also unexpectedly discovered that the viscosity of such a composition is not lowered even when large amounts of pharmaceutical ingredients, such as a whitening ingredient or various salts, are incorporated into the composition.

EPA `017 discloses an external skin-care composition containing the low-strength agar and a water-soluble polymer such as xanthan gum and carrageenan. The process of preparing the external skin-care composition is described in EXAMPLES.

In Examples 1-6, an aqueous gel is obtained by mixing the low-strength agar, xanthan gum, carboxyvinyl polymer, and water, heating the mixture to 80°C to dissolve the components, and then gradually cooling the solution, adding other components to the cooled mixture, and deaerating the mixture.

In Examples 7-10 or 11-14, a cream or cosmetic emulsion is obtained by stirring the low-strength agar, xanthan gum, carboxyvinyl polymer, and water at 80°C for 30 minutes to disperse them, cooling down the dispersion to 60°C and mixing the cooled dispersion with emulsion and other components, and cooling down the mixture to room temperature with stirring.

The EPA `017 reference nowhere discloses forming a gel from a hydrophilic compound capable of forming a gel, such as agar or carrageenan, or from a hydrophilic compound and a viscosity increasing compound incapable of forming a gel, such as xanthan gum, pulverizing the gel into a microgel, and incorporating the microgel into an external composition. Further, there is no

disclosure in EPA '017 that the microgel is an excellent viscosity control agent in an external composition, even when large amounts of pharmaceutical ingredients or various salts are incorporated into the composition.

In the Example 39 and Comparative Example 16 in the Specification herein on pages 44-46, it was discovered that an emulsified product having identical overall compositions prepared by two different methods have different viscosities. That is, the O/W emulsion which contains the microgel of the present invention has a viscosity of 300,000 mPa·s, whereas, an O/W emulsion which does not contain the microgel of the present invention has a viscosity of 140,000 mPa·s. These comparative tests confirm that even though the overall compositions per se are identical, a compositional system including microgels obtained through pulverization of a gel exhibits excellent viscosity increasing property as compared with a conventional system including no such microgel.

The Specification herein on page 12, line 14, to page 13, line 25, points out that conventionally an external composition containing a hydrophilic compound capable of forming a gel, such as agar or carrageenan, is gradually cooled under stirring to thereby increase the viscosity of the composition. In contrast, in the present invention, a hydrophilic compound capable of forming a gel is subjected to complete gellation to form a gel and the gel is then pulverized into a microgel, and incorporated into an external composition to increase the viscosity of the composition.

It is respectfully submitted that there is no disclosure whatever in EPA `017 of forming such a microgel by pulverizing a gel formed from a hydrophilic compound capable of forming a gel or of incorporating such a microgel into an external composition. On the contrary, that teaching or suggestion comes only from the present application and constitutes an important element or aspect of the present invention.

Moreover, EPA `017 also fails to disclose that such a microgel is an excellent viscosity control agent in an external composition, even when large amounts of a pharmaceutical ingredient or various salts are incorporated into the composition.

Where there is nothing in the prior art suggesting that the reference composition possesses a property possessed by the claimed composition, there is no justification for requiring comparative experiments. In re Stemniski, 170 USPQ 343 (CCPA, 1971). Prima facie obviousness of a novel chemical compound or composition requires structural similarity to a prior art compound or composition and the prior art suggestion or expectation of the same or similar utility. In re Dillon, 16 USPQ 2d 1897 (CAFC, 1991).

In the present case, it is respectfully submitted that there is no suggestion or expectation based on the EPA `017 reference that incorporating into an external composition a microgel having a mean particle size of 0.1-1,000 μm prepared by a process comprising dissolving in an aqueous solvent a hydrophilic compound capable of forming a gel and then causing the resultant mixture to form a gel followed by pulverizing the gel into a microgel having a mean

particle size of 0.1-1,000 μm could be used as a viscosity control agent to produce an external composition which provides no sticky sensation during use.

Moreover, there is no also no disclosure in the EPA '017 reference that the use of such a microgel in a composition would not lower the viscosity of same even when large amounts of pharmaceutical ingredients such as whitening agents of various salts are incorporated into the composition. On the contrary, that discovery and/or suggestion is found only in the present application and constitutes an important element or aspect of the present invention.

For these reasons, it is respectfully submitted that the rejection based on EPA '017 fails, as a matter of law, in view of the above authorities. Consequently, the Examiner would be justified in no longer maintaining the rejection. Withdrawal of the rejection is accordingly respectfully requested.

The Vermeer reference relates to a hair care composition containing numerous essential and optional ingredients which includes thickening agents such as xanthan gum, gelling agents/viscosity control agents, suspending agents such as guar gum, gum agar, xanthan gum, and solubilizing or clarifying agents such as polyethylene glycol. The conditioning shampoo composition of Example 104 contains xanthane gum.

However, there is no disclosure whatever in the Vermeer reference of a microgel prepared by pulverizing a gel formed from a hydrophilic compound capable of forming a gel in accordance with

the claims herein, or of incorporating such a microgel into an external composition as an excellent viscosity control agent.

Moreover, there is no disclosure that the use of such microgels when incorporated into external composition would act as a viscosity control agent even when large amounts of pharmaceutical ingredients or various salts are incorporated into the composition.

On the contrary, that teaching or suggestion comes only from the present application and constitutes an important element or aspect of the present invention.

If there is nothing to indicate a chemical compound, when made, would have the unique and unexpected properties it possesses, it would not be obvious to make it. In re Larson, 130 USPQ 209 (CCPA, 1961); and In re Lindell, 155 USPQ 521 (CCPA, 1967).

There is nothing in the Vermeer reference to indicate that the chemical composition therein would have the unique and unexpected properties as the compositions of the present invention, such as in Example 39 herein. For these reasons, it is respectfully submitted

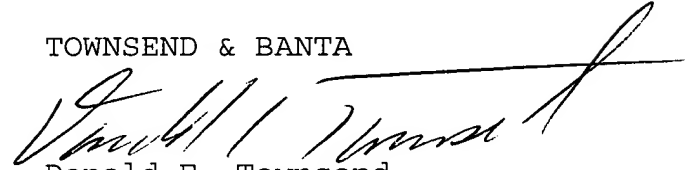
that this rejection fails, as a matter of law, in view of the above authorities and the unexpected results demonstrated in the application herein. Consequently, the Examiner would be justified in no longer maintaining this rejection. Withdrawal of the rejection is accordingly respectfully requested.

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance and early action and allowance thereof is accordingly respectfully requested. If there is any reason why the application cannot be allowed at the

present time, the Examiner is respectfully requested to call the undersigned at the number listed below to resolve any problems.

Respectfully submitted,

TOWNSEND & BANTA

A handwritten signature in dark ink, appearing to read 'Donald E. Townsend', is written over a horizontal line.

Donald E. Townsend

Reg. No. 22,069

Date: July 25, 2003

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